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MacIntosh, F.C., and Paton W.D.M. (London) The release of histamine by amides and other compounds.

The trypanocidal diamidines and certain other organic bases have a characteristic effect on the blood pressure of the cat. When one of these compounds is injected intravenously into a cat anaesthetized with chloralose, the blood pressure is not immediately affected, but suddenly falls after a delay of about 20 seconds. The following evidence indicates that the delayed depressor effect is due to the release of histamine. (a) Plasma taken from a cat after the blood pressure has fallenhas an immediate depressor action when injected into another cat, and contracts an isolated strip of guinea-pig's ileum: the two tests agree as to the ammount of histamine present in the plasma. (b) The effect of the post-injection plasma on both the blood pressure and the gut is not abolished by atropine, but is abolished by neoantergan in doses just sufficient to annul the effect of the histamine. (c) The post-injection plasma retains its activity when deproteinized and heated with strong HCl, as in Code's method for estimating histamine in blood. (d) The slow intravenous injection of one of the compounds elicits a secretion of acid gastric juice in the anaesthetised cat. (e) Injection of dilute solutions of the compounds into human skin produces a typical "triple response". The main site of histamine liberation appears to be skeletal muscle. The most active compounds tested were stilbamidine and propamidine. Activity was also shown by straight-chain diamines, diamidines and diguanidines with the basic groups terminally placed, by some aromatic monoamidines, and by lichenformin, the antibiotic isolated by Callow and Hart from B, licheniformis.